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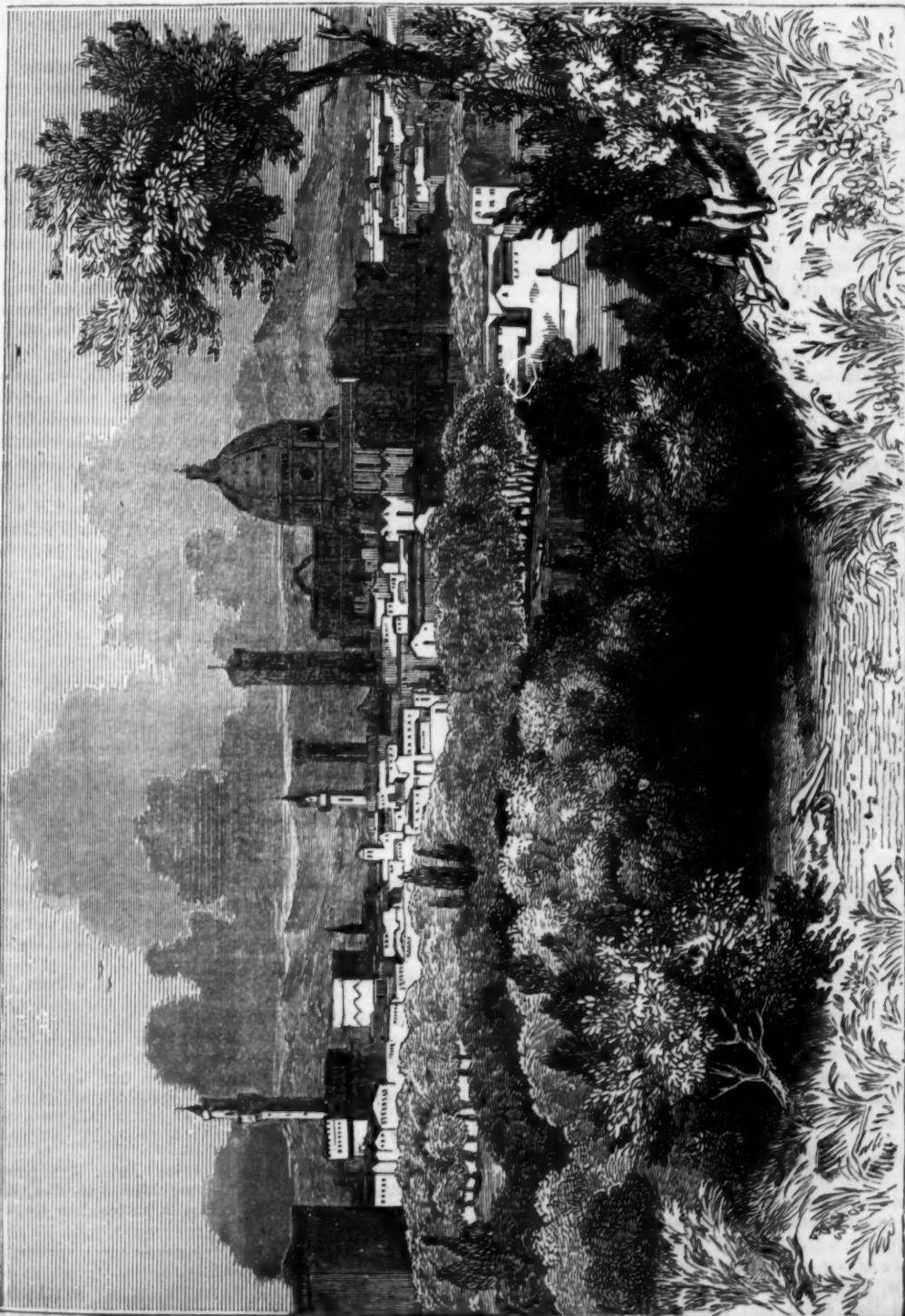
Magazine.

Nº 403.

OCTOBER

13TH, 1838.

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ONE PENNY.



GENERAL VIEW OF FLORENCE.

FLORENCE AND THE FLORENTINES.

FLORENCE, the capital of the grand duchy of Tuscany, is one of the finest cities of Italy, or even of Europe. It stands in a beautiful valley, intersected by the Arno, and occupies both sides of the river, which is crossed by four bridges; it is about five miles in circumference; its streets are well paved, and the houses in general, stately and substantial. The number of churches is very great, and they contain many choice paintings and exquisite statues.

The Church of San Lorenzo, one of the oldest in Florence, and originally the cathedral, was burned down at the commencement of the fifteenth century, and rebuilt by Brunelleschi. The church, the interior of which is ornamented with rows of Corinthian columns, is not of itself an object of much attraction, the visitor is drawn there by the far-spread fame of the chapels of the dukes di Medici*. Of these merchant dukes, Cosmo Cosmo, the progenitor, is buried in the centre of San Lorenzo, and a plain slab is inscribed "To the memory of Cosmo Medici, surnamed by public decree, the Father of his country." The mausolea of his successors, namely, the chapels before mentioned, are, however, of a very different character from the simple memorial to Cosmo. The first of these chapels, built by Michael Angelo, is a lofty square room with a recess for the altar, ornamented with ranges of Corinthian pilasters; it contains the tombs of Julian and Lorenzo Medici. The statues which recline over their sarcophagi are, next to the Moses at Rome†, the most celebrated sculptures of Michael Angelo. The subjects are curious, and have no apparent connexion with their position; they represent four human figures, at so many different periods of the twenty-four hours. The effect of Morning is represented by a female just awaking; a strong light appears to have broken her slumbers, and sleep does not seem inclined to lose its hold without a somewhat painful struggle; this is beautifully expressed in the brow and facial muscles. Night, the most celebrated of the four, has not much feminine beauty, but is remarkable for anatomical perfection, and an approximation to nature almost unparalleled: she rests upon her elbow asleep, and the observer cannot avoid expecting the head to nod and the figure to awake. The other two, Evening and Noon, figures of men reclining, are far from finished, the latter has a surprising appearance of vital energy. The statue surmounting the tomb of Lorenzo, called *Il Pensiero*, or the thoughtful, is in a sitting posture with its elbow on its knee, and the steadiness of its cold, pensive gaze, rivets the beholder with a species of fascination; on leaving, you are ready to believe that you are watched, and involuntarily turn to look again ere you escape.

Few of Michael Angelo's statues are perfectly finished; this is generally attributed to the impatience of his genius; it is possible that it proceeded from his sense of inability to fully realize his original conception, or that he purposely left the statue half emerging from the rudely-chipped marble that imagination might invest the residue with ideal perfection. The other Medicean mausoleum was designed by

Vasari under Cosmo the First, and executed under Ferdinand the First. Its shape is an octagon, surmounted with a cupola: enormous sums, and the labour of two centuries, have been devoted to the decoration of this chapel, which is lined with the richest mineral produce of the East; jasper, chalcedony, malachite, porphyry, lapis lazuli, &c., adorn the walls, and are arranged in beautiful mosaic groups, which represent the arms of all the Tuscan towns. It contains at present only two tombs, those of Ferdinand the First and Cosmo the Second. The general effect of this structure is dull and disappointing, the riches can only be seen in detail, and it is a pity that some of the enormous wealth lavished upon it, had not been appropriated to finishing the façade of this and other Florentine churches.

The *Pietra dura*, or hard stone manufactory, is almost peculiar to Florence; the stones are cut by means of a wire strung on a bow, and continually moistened with water and emery; the pieces are fitted together, and the back filled up with a cement. It is a government monopoly, and the finest pieces are never sold, but the workmen are allowed to dispose of the produce of their spare time to strangers; and small tables, broaches, &c., of Florence mosaic may thus be obtained, which, however, notwithstanding its costly material, is much inferior in effect to the Roman.

The church of *Santissima Annunziata*, gorgeously decorated with gilded embossments, rich marbles, and heavy cornices, is usually frequented by the court, and is consequently the fashionable church of Florence. The cloisters adjoining are covered with frescoes of the Florentine painter, Andrea del Sarto; the most celebrated of these, a representation of the Virgin and child, with Joseph resting on a full sack, is called the *Madonna del Sacco*, said to have been painted for the monks of the convent in time of extreme dearth, a sack of corn being the price of the picture.

After having viewed the beautiful pictures and frescoes with which the church and cloisters are lined, the visitor may observe in one corner a collection of miserable daubs, representing scenes of sickness and distressful accidents. These offensive mementos are suspended by persons who believe themselves to have been saved from the dangers thus depicted, by the miraculous interposition of the blessed Virgin. Concerning the altar-piece of the chapel of the Virgin, in this church, there is a tradition, that the painter having fallen asleep at his work, on waking found it completed by supernatural intervention. This picture is only exposed to the public on occasions of extraordinary prayers or thanksgivings; it does not prove the supernatural artist to have been of superior skill, being a very indifferent picture. In the month of May, an ass, bearing fruit, wine, and oil, is led with a ceremonial procession to the shrine where the offerings are received by the priests. The *Annunziata* contains the tombs of several renowned artists, who have contributed to the beauty and splendour of the city,—John of Bologna, Cellini, Bandinelli, and others.

The church of *Santa Maria Novella* would, perhaps, come next in point of interest to the *Annunziata*, but neither this or the remaining churches of Florence have such prominent points of attraction as to be noticed at large in this short account.

Attached to this church and convent, however, is an institution which the stranger seldom leaves Florence without visiting; namely, the *Farmacia*, or dispensary of the monks. It appears that these monks were originally in the habit of distributing a few simples

* Perhaps it may be as well here to apprise those of our readers who have not visited the Continent, that the sides of Roman Catholic churches are generally divided into compartments called chapels, and dedicated to different saints; sometimes, as is the case with San Lorenzo, these are built separately, and at a different period from the church with which they communicate, forming externally an excrescence. Mass is commonly performed in the week days at the altar of one of these chapels, which, on account of their size, are more convenient for a small congregation than the grand nave or body of the church, at the extremity of which is situated the principal or master altar. Some of the chapels in St. Peter's, at Rome, are as large as moderate-sized churches.

† See *Saturday Magazine*, Vol. III., p. 60.

for the use of the sick poor, and the time not devoted to religious offices was occupied in manufacturing these: this custom has grown into an organized and authorized sale of drugs and perfumery, which adds greatly to the revenues of the monastery, a large portion of which is now converted into a chemist's shop. No display is made towards the street; a bell at the portal gains admittance to any person requiring eau de Cologne, or decoction of bark; and for a *lira*, (about eight pence,) a stranger gets a view of the arched cells lined with bottles; and a pint of rose-water into the bargain.

Seven of the principal churches are visited annually by the grand duke and duchess, and court, on foot, who say a short prayer and distribute alms at each. This takes place on Holy Thursday, the day before Good Friday, on which same day, the feet of twelve of the oldest men and women in Florence are washed, and dinner is put on table by the duke and duchess in person, assisted by the most distinguished of the court. This ceremony could not be too highly commended, were it really to be performed with feelings of proper humility, and the conviction that before the Supreme Being, the rich and poor were perfectly equal, and that difference of station is necessary for mutual dependence and the prevention of anarchy: to encourage these feelings, the feet should be washed in right earnest, and not, as is actually the case here, water from a silver basin merely sprinkled over them. The custom, indeed, has degenerated into a mere annual show, little analogous to the beautiful example of Jesus washing the feet of his disciples, which it is intended to imitate and commemorate.

Florence, during the middle ages, and up to the present time, has been the most advanced in the arts and sciences of any town in Italy, and, perhaps, taking the average of a long period, of any in the world. The Gallery of Paintings and Statues contains the *chefs d'œuvre* of various epochs. The Venus de Medicis, the most perfect specimen of female beauty ever produced by the chisel; the Knife-grinding Scythian; the Faun of Michael Angelo; and the choicest of the pictures of Raphael, Titian, Guercino, and others, are collected in a small octagonal room called the Tribune, entered from the long corridor of the gallery. In another compartment is the group of Niobe and her Sons and Daughters, supposed to have originally ornamented the pediment of a temple of Apollo; in another, the self-painted portraits of the most eminent painters of all nations and all ages. Other cabinets contain bronze statues, ornaments cut in precious stones, and collections of the pictures of the different schools, native and foreign. The palaces of the noble families of Florence also contain specimens which prove how much Italy at one time excelled the rest of Europe in the arts.

How the sciences have been cultivated will appear by an examination of the Museum, Observatory, &c. In the former is a collection of anatomical models in wax-work, an art in which the Florentines have never been equalled, scarcely even copied by any other people; these models exhibit every portion of the human body, and were constructed for the tuition of the royal princes. To these are added a few specimens of animal and vegetable comparative anatomy: the telescope of Galileo, and the lens with which the diamond was first burned, are preserved in the cabinet of natural philosophy. Science continues at the present day to be held in the highest esteem in Tuscany; the establishments of professors are on the most liberal scale, and the professors do credit to

their patronage, always holding a distinguished rank among the philosophers of Europe.

The Florentines are a good-tempered, intelligent race; the upper classes are accused of want of hospitality, and the lower of dishonesty, and both, we think, with equal injustice. The former accusation proceeds from English notions of hospitality being inseparably connected with good living; but, considering the number of foreigners who are ever passing through this town, and the general shortness of their sojourn, it would be impossible for the inhabitants, whose income is limited, and denomination of money lower than most other countries, to entertain them with expensive profusion; the stranger will, however, never find them sparing of their time or trouble in ministering to his gratification. The accusation of dishonesty arises from the traveller being generally thrown among a bad set, namely, innkeepers, commissioners, vetturinos, and others, whose receipts are undoubtedly much increased by extortion. Those who have spent some time among them will seldom complain of being cheated; they are fond of bargaining, but we have known them give extra weight, or an additional quantity of an article, where they considered the customer outwitted in the price. The misfortune generally, in Italy, is the want of fixed prices, everybody trying to get as much as he can, and give as little; they have not arrived at the philosophy of the mutual convenience to the seller and purchaser of the contrary system. In no place, however, Naples excepted, will good humour go so far, and harshness so short a way, in aid of economy.

Robbery and thieving are scarcely ever known; the writer has left his carriage and luggage many nights in the open yard of an inn, and never missed the smallest article, and when anything has been dropped on the road it has been found and restored.

Probably from the effect of climate, the Florentines are indolent and fond of procrastination. Madame de Staël says, "The Florentines spend their mornings in walking on the *Lungo l'Arno*, and their evenings in asking each other if they have been there." *Pazienza*, (have patience,) is their invariable appeal, when deprecating the impatience occasioned by their laziness or carelessness. It must be confessed that they practise what they preach; their political history will evidence, that nationally as well as individually, they can bear and forbear. They are much imbued with the spirit of gambling, and in order to assist the government treasury, the lottery is allowed to exist, which fosters, or perhaps occasions, this tendency. The lottery is drawn with much ceremony by two children on a scaffolding, at the extremity of the *Uffizi*; five numbers out of ninety are drawn from a wire basket, the tickets contain three numbers, and should these three be identical with three of the five, a prize is won. The extreme rarity of the prizes will be clear from this account; nevertheless, purchasers for the tickets are never wanting, for the most part derived from the class of people who can least afford it. From continually thinking of the lottery, many of them dream of it, and have a superstitious confidence in the success of the numbers dreamed of; books with numbers appended to the ordinary subjects of dreams are consulted, and should a party once gain a prize, he continues to dream and buy tickets for the remainder of his life.

Florence in fine weather is a most delightful place; when the sun shines, the *Lungo l'Arno*, or bank of the river, is always warm, even when the rest of the town may be unpleasantly cold; the flower girls in their flapping Leghorn hats, who distribute bouquets to

well dressed persons, and are content with a slight occasional remuneration, add to the cheerfulness of a fine day. The *Cascina*, or grand duke's farm, a short distance from the town, forms a delightful drive, where, for six weeks during the winter-season, balls are given by the grand duke, to which English residents are liberally invited; there are also horse-races, which are chiefly supported by the English.

Florence in wet weather is a sort of extensive water-spout; the tubes which collect the water from the roofs, instead of running down the sides of the houses, stretch at irregular lengths over the centre of the street, and there empty their contents; this occasions the passenger to get not only the rain which falls directly upon the street, but all which falls upon the house tops, and that with increased force. The narrowness of the streets adds to this nuisance, which is common to Rome, Naples, and several Italian towns, though in Milan and others it has been altered. Thus it is frequently the case that people will long bear a grievance which individuals would soon remedy, for unanimity is never so certain as when there is only one opinion to be consulted.

THE VIPER AND THE SNAKE.

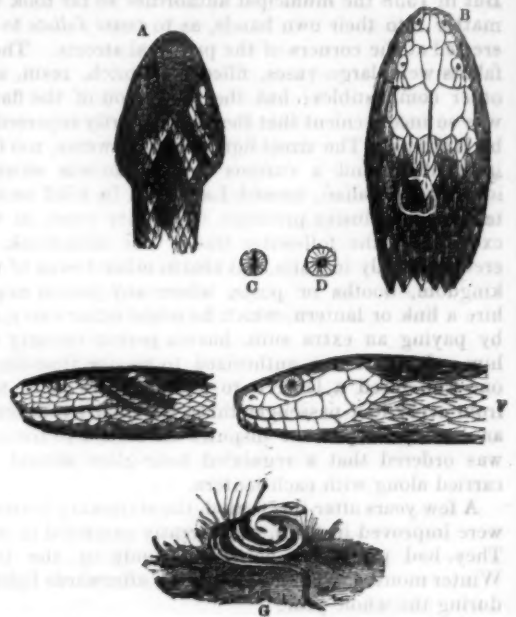
THE only reptiles of the serpent tribe known in Great Britain are the Snake, the Blind-Worm, and the Viper, or Adder; of these three, the Viper alone is venomous. As this reptile is far from being common, while the Snake is frequently met with, it may be as well to point out the distinguishing characters of the two; for the harmless nature of the Snake enables us to handle it with impunity, and as the markings on its body are subject to variation, the poisonous Viper might be mistaken for it, if the difference of the two is not clearly understood.

The first difference is that of size, the full-grown Viper being much smaller than the Snake. The marks on the back of the Viper are zig-zagged, or lozenged, and connected with each other, while in the common Snake they are distinct from each other, and partake of the character of spots and dashes. In examining the head of the two creatures, the angle of the jaws of the viper will be found most prominent, and the neck thinner, but the eye is peculiarly different; in the Snake it is large and circular, and the pupil in the centre is also circular; the eye of the Viper, on the contrary, is smaller; the pupil long, like that of a cat in a strong light, and above it the bone forms an overhanging ridge, the same as may be seen in the eagle. If the nose is looked at from the side, it will be found more pointed than in the Snake, retreating towards the mouth, which is placed some distance back, the whole appearance indicating cunning and quickness. The attitude of the Viper also betrays it, remaining coiled up with the head elevated, ready to strike.

Another distinction between the two is, the number and arrangement of the plates on the head; this will be better understood by a reference to the engraving.

The effect of the poison of the Viper, at least in this country, has been much exaggerated. In the case of an adult in good health, a painful swelling is the consequence, which yields in a few hours to medical treatment, but it has sometimes proved fatal to a child of a few years old, and its effects are more serious to an adult, whose blood is in such a condition as to render it very susceptible of inflammation; but there is little danger to be apprehended from any of the serpent tribe, unless they are wilfully or accidentally irritated, for they are the most timid of all

creatures, and always endeavour to escape from danger, instead of meeting it.



A. The Viper's Head, seen from above.—B. The Snake's Head.—C. The Eye of the Viper.—D. The Eye of the Snake.—E. Side view of the Viper's Head.—F. Side View of the Snake's Head.—G. Action of Viper when about to strike.

ON THE CUSTOM OF LIGHTING PUBLIC STREETS.

IN proportion as we become habituated to the use of any instrument, or to the diffusion of any custom, so are we apt to forget the instruments or customs formerly in vogue, and to regard those which we now have as if they always had been. Yet it is useful now and then to take a retrospective glance at times gone by, if it were only for the purpose of appreciating the comforts which we now possess.

This is well exemplified in the use of street lamps. The brilliant display of gas-flames which the streets of London and other large towns exhibit, has now become so familiar to the inhabitants, that a return to the use of the old oil lamps would be regarded as a public misfortune. But what should we say if, instead of gas or oil lamps, elevated on posts, we had a lamp suspended from a string, which stretched from house to house across the street? And yet this latter mode was considered, in its day, as a most important item of advancement in social comfort. It may be interesting to trace the progress of the custom of lighting streets.

There seems to be no evidence to prove that Rome, with all its grandeur and celebrity, had any provision for lighting the streets at night. The Romans, after a nocturnal visit, had to carry flambeaux, or lanterns, or else to walk home in darkness. It appears, however, that Antioch was, as early as the fourth century, more fortunate than Rome in this respect; for some of the principal streets had lamps suspended from ropes near the baths and other public buildings. On occasions of public sorrow these lamps were left unlighted, as a symbol of mourning.

It was many centuries after this before this custom became in any degree prevalent. It appears that Paris was the first modern city which was lighted, and this not until the sixteenth century. At that period, Paris was much infested with street robbers in the

night time; and the inhabitants were ordered to keep lights burning before their houses during the night. But in 1558 the municipal authorities so far took the matter into their own hands, as to cause *fallots* to be erected at the corners of the principal streets. These *fallots* were large vases, filled with pitch, resin, and other combustibles; but the regulation of the flame was so inconvenient that they were shortly superseded by lanterns. The street lights were, however, too few in number; and a curious speculation was entered into by an Italian, named Laudati. In 1662 he obtained an exclusive privilege, for twenty years, in the exercise of the following trade. He undertook to erect, not only in Paris, but also in other towns of the kingdom, booths or posts, where any person might hire a link or lantern, which he might either carry, or, by paying an extra sum, have a person to carry for him. Laudati was authorized to receive from every one who hired a lantern to a coach, five sous, and from every foot-passenger three sous, for a quarter of an hour. To prevent disputes in regard to time, it was ordered that a regulated hour-glass should be carried along with each lantern.

A few years after this period, the stationary lanterns were improved in form, and greatly extended in use. They had previously been used only in the four Winter months, whereas they were afterwards lighted during the whole year.

About the middle of the last century, the Lieutenant de Police offered a premium for the invention of the best street lamp that might be devised. This led to the production of the *reverberating* lamp, as it was called. In old views of Paris, we frequently see representations of these lamps, which were suspended from a string that crossed the street, and was fastened to the houses on either side. The lamps were suspended over the middle of the road-way, at such a height from the ground as to permit vehicles to pass beneath them.

There is some doubt as to whether the London streets were lighted before the seventeenth century. In 1668, among other regulations for the improvement of the streets, was an order that the inhabitants should hang out lanterns before their houses; and in 1690, the order was made more precise, by specifying that every housekeeper should hang out a lamp or light every night, as soon as it was dark, between Michaelmas and Lady-day; and to keep it burning until the hour of twelve at night. In 1716, the common-council ordered, that all housekeepers whose houses fronted any street, lane, or public passage, should, in every dark night, that is, every night between the second night after every full moon, and the seventh night after every new moon, hang out one or more lights, with sufficient cotton wicks, to continue burning from six till eleven o'clock in the evening, under the penalty of one shilling.

Besides these private lights, there were a few public lamps set up by the corporation, and lighted by contract, for which those housekeepers who had no private lights, had to pay a small rate. This confused method was, however, found very imperfect; and in 1736, the corporation applied to Parliament for power to enable them to light the streets in a better manner. The act which they obtained empowered them to set up a sufficient number of glass lamps, which were to be kept burning from sunset to sunrise throughout the year. The result of this was that nearly five thousand street lamps were erected within the city.

During the course of these improvements, many of the continental towns were lighted for the first time. In Amsterdam, an order was issued by the

magistrates in 1699, that the lamp-lighters should wipe the oil and dirt off the horn of the lanterns every day, and that horses should not be fastened to the lamp-posts: from which we may infer that horn lanterns, elevated on posts, were used at that period.

Copenhagen, the Hague, Venice, Messina, Palermo, Hamburg, Madrid, and other places, adopted the custom of lighting the streets, at various periods during the seventeenth century. At Rome, even so late as the latter part of the last century, the streets were not lighted; but Pope Sixtus the Sixth ordered, with the object of somewhat lessening the darkness in the streets, that the number of lights placed before images of saints should be increased.

At Berlin the custom began by ordering the owners of every third house to hang out, in turns, a lantern before their doors. The next stage of improvement was the erection of lamp-posts, the lamps on which were kept lighted at an annual expense of three thousand dollars, which was paid by the inhabitants. After this, the king took upon himself the expense of lighting the streets.

At Vienna the street lamps, on their first introduction, were most inconveniently managed. There were no lamp-lighters; but the inhabitants had to take down the lamps from before their doors in the morning,—take them to the lamp-office to be filled with oil,—and light them in the evening, on a signal given by the fire-bell, which was rung for that purpose. About 1780, however, a body of lamp-lighters, who wore a uniform and who were under military discipline, was established, and Vienna became a well-lighted city.

At different times, and in different towns, various slight improvements were made in the construction and management of the street lamps; but the introduction of gas was the most memorable event connected with them. In 1792 Mr. Murdoch, of Redruth, made some experiments on the practicability of obtaining inflammable gas from various substances; and in 1797 he lighted the Soho manufactory with gas procured from coals. In 1803, Mr. Winsor lighted the Lyceum Theatre with gas; and in the following year, a large cotton factory at Manchester was lighted in the same way. These, and a few other successful attempts, drew the public attention to the subject:—Companies were formed,—gas works were established,—pipes were laid down through the streets,—shops of the better kind were lighted by gas,—and ultimately the street lamps were lighted in the same way. So rapid has been the extension of the use of gas for these purposes, that there is now scarcely a court or alley, and scarcely a respectable shop, in London, which is not lighted by gas; and the other large towns of the kingdom have long adopted a similar mode of illumination.

Be very moderate in eating and drinking. Drunkenness is the great vice of the time; and by drunkenness I do mean, not only gross drunkenness, but also tipping, drinking excessively and immoderately, or more than is convenient or necessary: avoid those companies that are given to it; come not into those places that are devoted to that beastly vice, namely, taverns and ale-houses; avoid and refuse those devices that are used to occasion it, as drinking and pledging of healths; be resolute against it, and when your resolution is once known, you will never be solicited to it. The Rechabites were commanded by their father not to drink wine, and they obeyed it, and had a blessing for it. My command to you is not so strict; I allow you the moderate use of wine and strong drink at your meals: I only forbid you the excess, or unnecessary use of it, and those places and companies, and artifices, that are temptations to it.—SIR MATTHEW HALE.

ON THE FEEDING OF ANIMALS.

ON the provision of food which the Creator has made for animals, depends the replenishment of the earth; for, without that, fecundity would have been in vain. Yet we forget to note this perpetual miracle, the feeding of those myriads which crowd the world, because it is before us every day.

It requires considerable familiarity with natural history, and perhaps a still wider stretch of imagination, to cast over creation that rapid and comprehensive glance which would display this perpetual, this hourly miracle, in all its force. Amid all which creation displays of contrivance, resource, power, there is nothing more calculated to astonish us than this fact, simple as it may appear to the superficial, the unceasing and unfailing supply of food to the uncountable myriads of all forms, sizes, and propensities, which crowd this world of land and water. And it is God who spreads this table daily, hourly, for every one of these multifarious beings, of which, out of many hundred thousand forms, all differing, all feeding in various ways, not a single species only, but hundreds, thousands, can be named, each exceeding in its numbers, at any moment, all the men who have lived in the earth since the creation. Most truly do they all wait on Him, and receive their meat in due season.

In what manner can he who has never yet considered be taught to contemplate this subject? Will he reflect on the labours by which he must feed himself, or those through which others feed him: the series of persons, and instruments, and toils which must precede, ere he can see on his table even a fragment of bread? Will he consider the labour and thought necessary to provide nourishment for the few animals which he has associated to himself? Can he imagine himself the keeper of even a hundred of those which he imprisons for his amusement? Will he stretch his imagination still further, and replace those hundreds by thousands, by tens of thousands, and then conceive himself taxed to feed them by his own contrivances? Should he conceive all this, and thousands of millions of times more than this, he will not then have approximated in the minutest degree; no, not by myriads of millions more, to the numbers that are fed every day, every hour, and so fed that not one perishes for want: fed under kinds which science cannot count, feeding in different ways, on different objects, all ever craving yet never wanting; and as they are fed to-day, having been fed from the beginning of the world, to be fed as long as it shall last. Does he but count the gnats which darken the air of a Summer evening,—God feeds them all as He feeds the lion and the elephant. Or will he attempt to number the multitudes of the ocean, swarming in every form of diversity and size, from the whale to that atom which the microscope barely discovers? Differ as they may, widely as they wander, various as are their desires, it is still He who prepares their table in the wilderness of the waters, that not one shall perish for lack of food.

In this we see, the beneficence at least, of the Creator of all these races, though we should see no more: nor is it a small, or a careless, or a casual effort of goodness, when so much forethought has been exercised and such arrangements made. To eat, is the proper business, and nearly the sole happiness of the inferior animals: all else is comparatively trivial, or else supplementary. To be born, to eat, to die, to revive in a posterity, such is the course of animal life: but, of all these, to eat is the centre and the purpose, for this is the designed happiness,

For this end was the machinery created, and for this was life imparted: to live, and to eat, are one. It is the principle on which this multifarious creation is based. Man is the exception. Excluding him, no form of life need have been, but for this: it is the reason for life, and the final cause of life. It is a simple principle: even thus slightly viewed, it will surprise him who never before considered the plan of creation. It will surprise him far more, when he reflects on the operose system, on the complicated means and the intricacy of contrivance, the thought, the wisdom, the power applied to the attainment of a purpose as simple as it is single. For this alone, (always excluding man,) does all else exist; everything that is, is but a preparation for this end. Materials, elements, chemistry, light, heat, mechanism, multiplicity of organic forms, the earth itself, the very sun, are, that animals may eat.

It is, indeed, a system to excite surprise: but it would be even more surprising, could we believe that the Creator did not Himself feed His creation, did not contrive for that food which forms the end of His entire plan. To analyze the contrivance is, indeed, beyond our reach. It depends not on chemical laws which we can investigate: it cannot be measured and resolved by geometry. We cannot disentangle that which involves so vast a mass, and such overwhelming numbers of forms, such an universe of lives, independent in themselves, yet mutually connected and dependent, under the control of a superior force; a multitude so enormous of powers and desires, of instincts that we see but in part, and of inclinations that escape us. It is a problem too complicated for human ingenuity to investigate, executed as it is: the very possibility of its execution could not have been conceived: yet it has been executed by Almighty wisdom and power, and the whole complex system proceeds for ever, with simplicity and regularity equal to its perfection.

Is it, indeed, not a work of design, of design the most comprehensive, of forethought the most minute, of wisdom beyond the possibility of estimation, and of power which knows no bounds? No!—has it been said by that philosophy which, ever hating to believe in a Governor of the universe, has referred the whole of this marvellous system to chance. The mathematical doctrine of probabilities would labour long to demonstrate the possibility of such a system, on its own grounds: working out such an end, so regularly, so securely, through such a period of time, and under so many changes in the earth, and its inhabitants, without error as without failure.

But if we cannot analyze the whole, we know enough to oppose this worse than ignorant hypothesis, can see enough of design to leave no doubts respecting the entire one. The desires of animals prove, that to every one there is an allotted food: they are inclusive and exclusive: it is one of the adaptations which pervade all nature. The lion does not eat grass, nor does the ox prey as the tiger. It is said that variety exists, has happened, and that various kinds have chosen what pleased them. The insect races disprove this. There is a single food for a single insect: no other one desires that: it desires no other, refuses all else. If this is not design, where shall we seek it? The philosopher himself feeds twenty animals, with different kinds of food, feels his difficulties, and prides himself on his knowledge: yet he refuses to acknowledge the contrivance and providence of Him who feeds millions for ever, with ten thousand sorts of food; ever supplying their wants, ever consulting their tastes, without error; and without failure. How would He act otherwise, when this was His prime and

ultimate intention, the object of all that He has effected in the universe?

But systems for the Creator and His creation are for ever formed by those who know neither Him nor His works: but let them learn at least, before they teach. And let him also who takes no note of creation, learn to see. It is because of the beauty and regularity of this system that his want of thought discovers neither. Its very perfection is the source of his neglect or denial. In his philosophy, that which never fails, is a necessity; and that philosophy forgets how wisdom and contrivance are proved. He acknowledges that order, regularity, and certainty, are proofs of design and wisdom in the works of man; and will not see them in those of God.

Under this system of food the earth has been filled with the animal forms by which it is inhabited. To many, vegetables alone have been appointed; while there are entire tribes, such as the more minute and more imperfect marine animals, living entirely on animal food. In some, there is the inclination with the power, to feed in both modes: but whether there are animals, which can, like vegetables, feed upon sub-elementary matter, on air and water, has not been determined. Whatever might be inferred from the analogy of plants, it is hitherto not probable, because the minutest Infusoria require at least solutions of compound matter for their existence, and almost all the minute and the least perfect animals of the ocean, possess organs of some kind for apprehension. From the plant to the vegetable-eating animal, and back again to the plant, the circle is simple: while it is an essential part of the whole system of feeding, that it consists in a perpetual circulation, more or less complex: though the final term of the utmost complication of circles, is, as far as we yet know, to return everything to the plant, that it may recommence as the initiator of food. The intermediate agents between the two systems of life, are the earth, or the water, and the atmosphere; that wonderful laboratory, in which everything appears to be lost, receiving but to return again, as the earth does, if more visibly. The carcass which has been dissipated by the winds or burnt on the funeral pile, will as surely return to revive in future plants and future food, to give existence to future animals, and to perform the same round for ever, as that which has been buried in the ground, or the perished straw which forms the treasure of the agriculturist.

[Abndged from MACCULLOCH'S *Proofs and Illustrations of the Attributes of God.*]

REVENGE from some hateful corner shall level a tale of dishonour at thee, which no innocence of heart or integrity of conduct shall set right. The fortunes of thy house shall totter; thy character which led the way to them shall bleed on every side of it; thy faith questioned; thy works belied; thy wit forgotten; thy learning trampled on. To wind up the last scene of the tragedy, cruelty and cowardice, twin-ruffians, hired and set on by malice in the dark, shall strike together at all thy infirmities and mistakes. The best of us, my dear lad, lie open there; and trust me, trust me, when to gratify a private appetite, it is once resolved upon, that an innocent and a helpless creature shall be sacrificed, 'tis an easy matter to pick up sticks enough from any thicket where it has strayed, to make a fire to offer it up with.—*STERNE.*

LIFE is contracted within a narrow and barren circle, year after year steals somewhat away from their store of comfort, deprives them of some of their ancient friends, blunts some of their power of sensation, or incapacitates them for some function of life.—*BLAIR.*

ON PRIZE-FIGHTING.

PRIZE-FIGHTING has happily greatly declined in this country; the only one, we believe, where the brutal and disgusting practice has been cultivated. This must rejoice the heart not only of every Christian, but of every civilized being; but the practice, though checked, has not disappeared from amongst us. More than one case of death from fighting has very recently occurred.

In one of these fatal prize-fights, which took place near Newcastle, the parties, Robert Forbister and John Brown, seem to have been equally matched; they fought for a purse of twenty pounds, and the combat lasted one hour and twenty-five minutes. In the last round Brown received a blow from his antagonist on the jugular vein, and instantly fell; he was carried to a public house and died the same evening. Thus did this unhappy man quit life in a state of mind too dreadful to contemplate as that of a dying man; engaged in an act which no Christian can justify or even extenuate. Do those who were accessories to this dreadful event by subscribing, encouraging, or even looking on at this combat, ever pray? Do they ever go to a place of worship, and there entreat God to preserve them from sudden, that is, unprepared death; and yet—vile abuse of the worst,—for their amusement, venture to expose a fellow-creature to such an awful danger!

There are, however, persons, we blush to say it, silly enough, and, worse still, wicked enough, to defend prize-fighting. It helps, say they, to keep up national courage, to keep up the English mode of resenting an injury. We do not suppose that any of our readers will suspect us of valuing such arguments highly enough to think them deserving a serious answer, or supposing, even if they were true, that they could extenuate in the slightest degree so barbarous and *unchristian* a practice. A sufficient answer to all such false defences of prize-fighting would be contained in the reply they must give to the single inquiry, Whether prize-fighting is a Christian mode of settling a quarrel or repelling an affront? Neither this or any other country, as long as it performs its duty by extending legal protection to the person and property of the lowest, as well as the highest individual, will ever, we may be assured, want courage for her defence, whenever a proper occasion calls for it.

Who, let us inquire, would not prefer to trust his defence at a period of peril, to a sober and steady Christian neighbour, than to a brawling, fighting ruffian? Who would not place the greater confidence in the vigilance, firmness, and fortitude of the former, than on the noisy violence of the latter?

The following extract from a little book, containing a narrative of the sufferings and perils which the writer, himself a private soldier, passed through in Spain and Portugal, while serving in those countries under the Duke of Wellington, will, perhaps, strengthen our remarks with those who require experience to build their opinions on.

"I have," (says this simple but interesting writer,) "known some of those *bruising* fellows in the army, indeed, every regiment has its *bully*; but although they are always forward enough to abuse and tyrannise over their fellow soldiers who are not of the *fancy*, I never knew one of them that displayed even ordinary courage in the field; and it was invariably by fellows of this description, that outrages, such as those perpetrated at Badajoz, were committed." B.

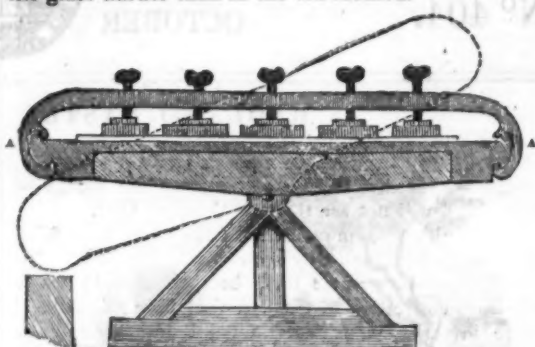
LOOKING GLASSES AND MIRRORS.

THE MIRRORS of ancient times were formed of polished metal, those of the Jewish women, as we learn from Scripture, were of brass. It is doubtful at what time, and by whom the covering of mirrors of glass with quicksilver and tin was first accomplished; like other inventions, probably, this was discovered by several artists, perhaps at the same time, and independently of each other. The manner in which the manufacture is at present carried on, is as follows:—a slab of stone of any requisite size, is ground perfectly level and smooth; this slab is surrounded by a frame-work of wood, which rises several inches above it; but the slab itself is so fixed, that its surface is raised from the back of the frame, so as to leave a kind of groove, or gutter, all round, between the stone and the wood.

The slab, with its frame-work, is mounted so as to form a table, but so adjusted by means of screws, that it can at any time have its surface thrown into an oblique position. The table being thus prepared, its surface is covered with tin-foil, and mercury being poured over it, a hare's foot is used to spread it over the surface of the tin, and cause it to amalgamate with the latter metal; more quicksilver is then poured on it, until the surface is covered to the depth of nearly a quarter of an inch. The plate, or plates of glass, (for it is not necessary that the table should be occupied by one plate alone,) are rendered perfectly clean, and a piece of smooth paper is laid over the edge of the frame nearest the workman, dipping into the mercury. The workman holds this paper in his right hand, and taking the clean glass in his left, lays it flat upon the paper and slides it gently into the mercury, causing the edge to dip just below its surface. When the whole of the plate has passed on to the mercury, it is gently floated to the furthest end of the frame; another plate is treated in the same way, until the table is wholly covered. Lead weights covered with green baize, and each weighing seven pounds, are then placed upon the glass nearly close to each other; these are allowed to remain on from twenty-four to thirty-six hours; they are then removed, and the table being gently raised by means of the adjusting screws, the superfluous mercury flows along the gutter towards the lowest corner, at which place there is a hole, furnished with a plug, through which it is drawn off to be used on another occasion. The plates of glass are left for a few hours more, to drain, and then, being lifted off the table, are placed on a shelf resting against the wall, to get rid of the fluid mercury that still remains; this shelf is also provided with an inclined gutter to carry off the liquid metal.

The loose weights used in this mode of silvering, are considered by some manufacturers to be dangerous, as they are likely, at times, to slip out of the workman's hand by accident; to obviate this danger an apparatus has been invented, in which a steady pressure, by means of screws, is substituted in the place of that produced by the weights. The engraving represents a section of one of these machines:—A A is a wooden clamp, which embraces at each of its ends the frame-work of the table; there as many of these clamps as the table is feet in length. The length of each clamp is furnished with screws, placed seven inches apart, which, on being turned, press on square pieces of wood covered with leather, which are attached loosely to their lower ends; it is to be observed that the screws of each clamp are so placed as to be opposite the intervals between those of the clamps on either side: this produces a more equal pressure than would be the case if the screws of each

clamp faced each other. In addition to the steady pressure, and freedom from danger, of this apparatus, it possesses another advantage, the table can be tilted at once, and the superfluous mercury drawn off, thus rendering the amalgam which adheres to the back of the glass harder than in the old method.



In silvering the commoner kinds of looking-glass, the plate is lifted from the table the instant it has the tin-foil attached, and set on its end to drain, without sustaining any previous pressure. Concave and convex glasses are silvered on models made to fit them exactly. In silvering globes of glass, a metallic amalgam is prepared and poured into the globe, which is moved about in all directions until the amalgam has attached itself to the surface of the glass; this succeeds best when the glass is made hot.

There are various methods for making this amalgam, the two following may be taken as examples:—Three ounces of bismuth, half an ounce of tin, and half an ounce of lead, are to be melted together, and when somewhat cooled, three ounces of mercury are to be added. Or, one ounce of tin, one ounce of lead, and two ounces of bismuth are to be melted, and afterwards mixed with ten ounces of mercury. The reflecting glasses of sextants are covered with a reflecting substance, which is nearly pure lead.

ON HEALTH.

SLOW wand'ring on the margin of the deep,
I breathe the cheering gale of health once more;
And see the billows gently dash the steep,
That rears its bold head on the sandy shore.
Fresh looks the landscape with the dews of dawn;
A blueish mist swims o'er the softened grove;
The wanton deer bound lightly o'er the lawn,
And ev'ry copse resounds with notes of love.
The village-clocks proclaim the passing hour;
The tall spires glitter to the early sun;
The ploughman, whistling, quits his low-roofed bow'r,
And now his peaceful labour is begun.
Yet not this ocean, cheered with many a sail,
Nor all these rural sounds, and pastures fair,
To solace worn disease could aught avail,
Or from his bosom chase the clouds of care.
The merry morn no rapture could impart,
Nor converse sweet of friends his hours beguile;
In vain could beauty warm his aching heart,
Or on his cold-wan cheek awake a smile.
Yet oft we slight thy worth, O, blessed Health!
Poor mortals as we are, till thou art flown;
And thy sweet joys, more dear than fame or wealth
Touch not our hearts, but pass unfelt, unknown.
Thy joys, without whose aid whate'er of blest,
Or great, or fair, the heavens to man ordain,
Is dull and tasteless to the unthankful breast,
Love loveless, youth old age, and pleasure pain.

REV. E. HAMLET.

LONDON:

JOHN WILLIAM PARKER, WEST STRAND.

PUBLISHED IN WEEKLY NUMBERS, PRICE ONE PENNY, AND IN MONTHLY PARTS
PRICE SIXPENCE.

Sold by all Booksellers and Newsvendors in the Kingdom.